This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for representing cartographic data in a computer-based system, comprising:

providing a cartographic database containing [[data]] latitude and longitude data points indicating locations corresponding to ~~that represents~~ a plurality of geographic features;

computing a plurality of wavelet coefficients from said latitude and longitude data points ~~that represents~~ corresponding to one of said geographic features in the cartographic database, ~~wherein said data that represents the geographic feature is a plurality of data points indicating locations,~~ wherein said wavelet coefficients obtained with a wavelet, wherein said wavelet being one of a family of functions having a form $\psi_{ab}(x) = |a|^{-1/2}\psi\left(\frac{x-b}{a}\right)$, wherein $\psi_{ab}(x)$ is called a mother wavelet, a is called a dilation parameter, b is called a translation parameter, and x is an independent variable, wherein said computing the wavelet coefficients includes applying a wavelet transform to a function defined by the data points representing the geographic feature;

indexing the wavelet coefficients by a plurality of display scales; and

after said step of computing, storing the wavelet coefficients in a computer-usable database on a physical storage medium, the wavelet coefficients instead of said latitude and longitude data points being usable for displaying a representation of the geographic feature in the computer-based system.

Claim 2 (cancelled)

Claim 3 (currently amended): The method of claim 1, wherein the data points include altitude ~~are selected from the group consisting of coordinate pairs and a coordinate triples~~.

Claim 4 (original): The method of claim 1, wherein the geographic feature is the boundary of a feature selected from the group consisting of a road, waterway, building, park, lake, railroad track, and airport.

Claim 5 (cancelled)

Claim 6 (previously presented): The method of claim 1, wherein the step of computing the wavelet coefficients includes:

computing the wavelet coefficients by performing a least-squares fit.

Claim 7 (previously presented): The method of claim 1, wherein the wavelet coefficients are computed using a semi-discrete orthonormal wavelet transform.

Claim 8 (currently amended): A method of displaying on a computer output device a representation of a geographic feature, comprising:

retrieving from a computer-usable database a plurality of wavelet coefficients associated with the geographic feature, wherein a wavelet being one of a family of functions having a form $\psi_{ab}(x) = |a|^{-1/2}\psi\left(\frac{x-b}{a}\right)$, wherein $\psi_{ab}(x)$ is called a mother wavelet, a is called a dilation parameter, b is called a translation parameter, and x is an independent variable, the wavelet coefficients being derived from a plurality of latitude and longitude data points specifying geographic locations ~~according to a predetermined reference system by applying a wavelet transform to a function defined by the data points~~;

~~computing a function that represents the geographic feature using the retrieved wavelet coefficients;~~ and

using the wavelet coefficients instead of latitude and longitude data points ~~function~~ to display the representation of the geographic feature on the computer output device.

Claim 9 (previously presented): The method of claim 8, further comprising:

performing a zooming operation to display another representation of said geographic feature at a different scale.

Claim 10 (original): The method of claim 8, wherein the geographic feature is selected from the group consisting of a road, waterway, building, park, lake, railroad track, and airport.

Claim 11 (currently amended): A system for displaying on a computer output device a representation of a geographic feature, comprising:

a database storing a plurality of wavelet coefficients associated with the geographic feature, wherein a wavelet being one of a family of functions having a form $\psi_{ab}(x) = |a|^{-1/2}\psi\left(\frac{x-b}{a}\right)$, wherein $\psi_{ab}(x)$ is called a mother wavelet, a is called a dilation parameter, b is called a translation parameter, and x is an independent variable, the wavelet coefficients being derived from a plurality of latitude and longitude data points specifying geographic locations ~~according to a predetermined reference system by applying a wavelet transform to a function defined by the data points, wherein the wavelet coefficients are associated with a plurality of display scales~~; and

a processor configured to ~~calculate the representation of the geographic feature at a predetermined display scale using~~ use the wavelet coefficients instead of said latitude and longitude data points to display ~~associated with the predetermined display scale; and a display device for displaying~~ the representation of the geographic feature.

Claim 12 (currently amended): The system of claim 11, wherein the data points include altitude ~~are selected from a group consisting of coordinate pairs and coordinate triples~~.

Claim 13 (currently amended): A method of generating a computer-usable database that represents cartographic data, comprising:

providing a predetermined database containing data indicating a plurality of latitude and longitude data points specifying geographic locations;

computing a plurality of wavelet coefficients from the latitude and longitude data points by applying a wavelet transform to a function defined by the latitude and longitude data points, wherein a wavelet being one of a family of functions having a form $\psi_{ab}(x) = |a|^{-1/2}\psi\left(\frac{x-b}{a}\right)$, wherein $\psi_{ab}(x)$ is called a mother wavelet, a is called a dilation parameter, b is called a translation parameter, and x is an independent variable, wherein said wavelet coefficients instead of said latitude and longitude data points are used to represent the cartographic data; and

storing the wavelet coefficients in the computer-usable database on a physical storage medium.

Claim 14 (currently amended): The method of claim 13, wherein the data points include altitude ~~are selected from a group consisting of coordinate pairs and coordinate triples~~.

Claim 15 (original): The method of claim 13, wherein the geographic feature is the boundary of a feature selected from the group consisting of a road, waterway, building, park, lake, railroad track and airport.

Claim 16 (currently amended): A system of generating a computer-usable database that represents cartographic data, comprising:

a first computer-usable database storing data that represents a plurality of geographic features, said data that represents one of said geographic features comprises a plurality of latitude and longitude data points specifying geographic locations;

a processor configured to compute a plurality of wavelet coefficients from the latitude and longitude data points specifying geographic locations by applying a wavelet transform to a function defined by the latitude and longitude data points, wherein said wavelet coefficients provide a representation of said geographic feature, wherein a wavelet being one of a family of functions having a form $\psi_{ab}(x) = |a|^{-1/2}\psi\left(\frac{x-b}{a}\right)$, wherein $\psi_{ab}(x)$ is called a mother wavelet, a is called a dilation parameter, b is called a translation parameter, and x is an independent variable; and

a second computer-usable database on a physical storage medium, operatively coupled to the processor, for storing the wavelet coefficients, wherein said wavelet coefficients instead of said latitude and longitude data points are used to represent the cartographic data.

Claim 17 (currently amended): The system of claim 16, wherein the data points include altitude ~~are selected from a group consisting of coordinate pairs and coordinate triples~~.

Claim 18 (previously presented): The system of claim 16, wherein the wavelet coefficients are computed by applying a wavelet transform to a function defined by the data points representing a geographic feature.

Claim 19 (original): The system of claim 16, wherein the wavelet coefficients are computed by performing a least-squares fit.

Claim 20 (currently amended): A method for generating a database error metric in a computer-based system, comprising:

computing a first plurality of wavelet coefficients from a plurality of first latitude and longitude data points included in a first cartographic database by applying a wavelet transform to a first function defined by the first latitude and longitude data points, wherein said wavelet coefficients instead of the first latitude and longitude data points represent geographic features;

computing a second plurality of wavelet coefficients from a plurality of second latitude and longitude data points included in a second cartographic database by applying a wavelet transform to a second function defined by the second latitude and longitude data points, wherein said wavelet coefficients instead of the first latitude and longitude data points represent geographic features, wherein a wavelet being one of a family of functions having a form $\psi_{ab}(x) = |a|^{-1/2}\psi\left(\frac{x-b}{a}\right)$, wherein $\psi_{ab}(x)$ is called a mother wavelet, a is called a dilation parameter, b is called a translation parameter, and x is an independent variable; and

generating the database error metric based on a wavelet transform involving the first and second pluralities of wavelet coefficients, wherein said database error metric provides a measurement comparing said first cartographic database and said second cartographic database.

Claim 21 (original): The method of claim 20, wherein the error metric is a total error metric based on a plurality of wavelet scales.

Claim 22 (original): The method of claim 20, further comprising:

selecting a wavelet scale; and

restricting the error computation to the selected wavelet scale to generate a layer error metric.

Claim 23 (previously presented): The method of claim 20, wherein the data points are selected from the group consisting of coordinate pairs and coordinate triples.

Claim 24 (currently amended): A system for generating a database error metric, comprising:

a first cartographic database for storing a first plurality of latitude and longitude data points;

a second cartographic database for storing a second plurality of latitude and longitude data points; and

a processor, operatively coupled to the first and second cartographic databases, configured to compute a first plurality of wavelet coefficients and a second plurality of wavelet coefficients, respectively, from the first and second pluralities of latitude and longitude data points by applying a wavelet transform to a first function defined by the first latitude and longitude data points and to a second function defined by the second latitude and longitude data points, wherein said wavelet coefficients instead of the latitude and longitude data points represent geographic features, wherein a wavelet being one of a family of functions having a form $\psi_{ab}(x) = |a|^{-1/2}\psi\left(\frac{x-b}{a}\right)$, wherein $\psi_{ab}(x)$ is called a mother wavelet, a is called a dilation parameter, b is called a translation parameter, and x is an independent variable, the processor generating a database error metric based on the first and second pluralities of wavelet coefficients, wherein said database error metric provides a measurement comparing said first cartographic database and said second cartographic database.

Claim 25 (previously presented): The system of claim 24, wherein the error metric is a total error metric based on a plurality of wavelet scales.

Claim 26 (original): The system of claim 24, wherein the processor is configured to restrict the error computation to a selected wavelet scale to generate a layer error metric.

Claim 27 (original): The system of claim 24, wherein the data points are selected from the group consisting of coordinate triples and coordinate pairs.